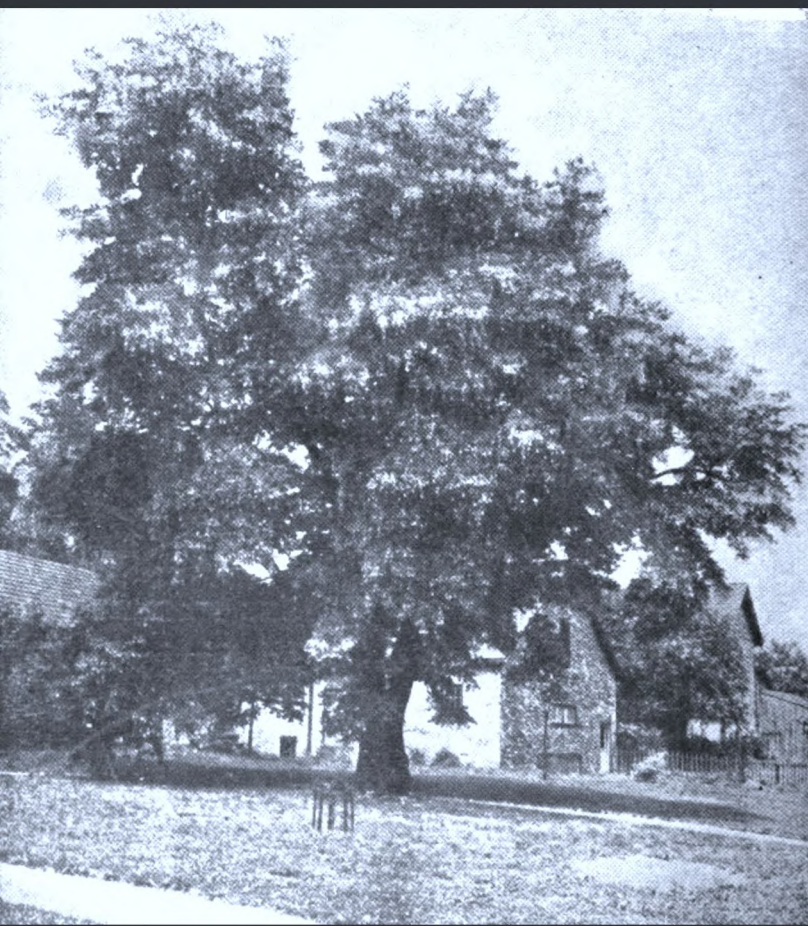

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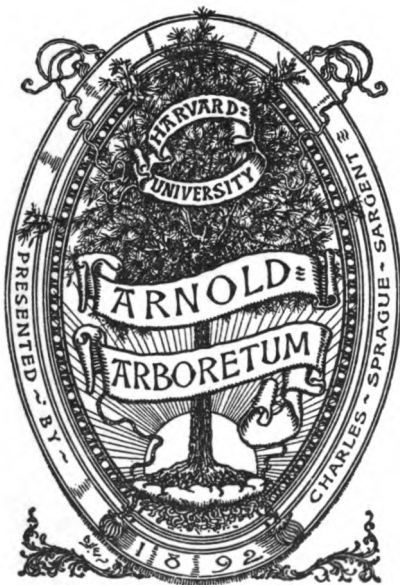


*Bartram's garden,
Philadelphia, Pa. ...*

John Bartram Association, Philadelphia

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Bartram's Garden

John Bartram





IN BARTRAM'S GARDEN. THE OLD WATERING-TROUGH.

Bartram's Garden

Philadelphia, Pa.

Take Elmwood Av. car on 12th St. south of Arch, or
Pine St. west of 12th. Or leave Darby car at
49th St. with a pass, walk one square south.
and take Elmwood Av. car.

John Bartram

Born near Darby, Pa., 23rd March, 1699

Died at Bartram's Garden, 22nd September, 1777

**Issued by The John Bartram Association
March, 1904**

**Re-issued with New Plan of Garden, etc.
August, 1907**

John Jos. McVey, Publisher, 1229 Arch St.
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JOHN BARTRAM ASSOCIATION,
PHILADELPHIA
1907

John Bartram
Philadelphia

Bartram's Garden

John Bartram

On the west bank of the Schuylkill River, not far from where it runs into the Delaware, lies Bartram's Garden, a garden that was planted more than a hundred and seventy years ago, and had not then its like anywhere in the New World.

In those far-away days, Indians of a friendly tribe came and went like apparitions; what was it to them, I wonder, to come out of Penn's woods or step from their canoes into this tended garden; was there not a little catch in the breath, and, for an instant, a misgiving as to whether hunting-grounds were all? We know that, later, Washington, Jefferson, Franklin, and others, weighted with affairs, felt the charm of the garden and rested there. And time and change and neglect have not quite broken the spell. The charm is there to-day,—elusive; much of it, indeed, due to time, for the place is shrouded in memories, an Indian-summer haze about the life of one simple, dignified, happy, tireless man, John Bartram.

It is no little deed to make a garden, that "greatest refreshment to the spirits of man." But to make a garden in a wilderness; to make the wilderness tributary to it; and it tributary to

the great centres of learning and thought, on another continent: that is a great deed.

John Bartram "conceived the idea of establishing a *Botanic Garden* for the reception and cultivation of the various vegetables, natives of the country, as well as exotics; and of travelling for the discovery and acquisition of them."

He set about it in, say, 1730. When he began his travels, our neighbors, the Alleghanies, were mapped as *The Endless Mountains*. All his life there was peril almost from the time he left his own door. Yet he wrote in 1762—I copy from Dr. Darlington*:—

If peaceable times come, I intend to double my diligence, for I am better stocked with materials than formerly, having now searched our North America from New England to near Georgia, and from the sea-coast to Lake Ontario and many branches of the Ohio; so that now there are very few plants in all that space of ground but what I have observed,—nay, have most of them growing in my own garden.

When he was almost seventy years of age, under orders as Botanist Royal for the British Colonies in America, he explored the St. John's river in Florida. By the time that the United States was a year old, John Bartram's life-work was done; he died September 22d, 1777, while the British army was making its way from

* *Memorials of Bartram and Marshall*, by William Darlington, M. D., LL. D.

the Brandywine to Philadelphia; he naturally feared that that army would "lay waste his darling garden, the nursling of almost half a century." Yet he had lived with one feeling about it ever,—“If I die a martyr to Botany, God’s will be done; His will be done in all things.”

The great usefulness of the Garden began when, doubtless at the suggestion of James Logan, John Bartram sent his diaries to Peter Collinson in London, a man devoted to science and always a friend of Pennsylvania and Pennsylvanians. This initiated a correspondence in which these two helped each other, rallied each other, loved each other, for nearly fifty years, without ever meeting face to face. Through Peter Collinson, John Bartram’s correspondence extended to all the distinguished naturalists of his time. It was he who engaged, first Lord Petre, then Philip Miller and the Dukes of Richmond and Norfolk, to subscribe an annual allowance of thirty guineas to meet the expenses of Bartram in procuring for them American plants to adorn their gardens. Something was consigned to Peter Collinson—seeds, roots, plants, cuttings,—one box, twenty boxes, by almost every ship that sailed from here to London. And much came back in return—tulips and carnations, “nails, calico, Russia linen, and the clothes for my boys.”

These were times of suspense. At the best, letters were nearer two months than one in crossing the ocean. A letter from Linnæus to Bar-

tram, dated August 10, 1750, came to hand two years after it was written. Bartram's Journal of his Travels to the Five Nations and Lake Ontario, sent in the spring of 1744, was taken by the French, and did not reach England till June, 1750. In 1763 there was a time of concern about boxes of seeds that the Spaniards had captured. And there were minor trials by sailing vessels: boxes arrived with a "proper hole" for access at the corner of each box, and in each a warm rat's nest made of the shrubs; one letter was eaten in large holes in four places by some mischievous insect, showing the need of wrapping letters in dry tobacco-leaves. John Bartram writes November the 22d, 1764:

I send twenty-two boxes, consigned to thee. . . . I have also sent a little box . . . containing above one hundred different kinds of seeds. . . . There is a parcel of Chinquapins and Willow-oak Acorns that was missed in the last packed sixteen boxes by the extreme hurty we were in for above two weeks, day and night,—*First-day* not excepted. The Captain positively affirmed he would sail by such a day, and leave them if they were not brought before, and now he stays for sailors.

But these were trifles. The wonder is that most of the cargoes arrived and in tolerable condition.

John Bartram's enthusiasm was buoyant from first to last. "I love Natural History dearly."

Dear Beloved Friend

November 7 26 1769

I have now little to write having wrote largely by Captain
Falconer by whom I sent for thee a Box of plants & shrubs
in which I put two small harmless snakes I sent also a Barrel
in which I planted many Colocasia roots for y^e King & thy self
I also put two of our large Bull frogs perhaps male & female
which if they come safe & you have none of them before will
be a great innocent Curiosity for y^e King. they are very harmless
if thou wants any of them or any of our tortises I will endeavour
to send them. we have a great variety of y^e water Birds that
is harmless beside y^e mischievous snapping one that lives mostly
on fish & fowls when they can catch them by surprise. & they
are very dexterous at it. they creep all over in y^e mud except
their nose & when a fish swims over them they snap him into
their mouths also when young Ducks or goslings swim over
near them they catch hold of their feet draw them under
water & devour them & mankind catcheth all they can ^{of them} not only
to destroy them but they esteem the stewed soup to be a delicious
mercer. as most of y^e others are.

if shall be well pleased if thy Nephew will undertake to receive
my salary & y^e Cash for y^e Seed Boxes I shall send for which I am
very willing to allow him full Commissions. if thou will please to let
me know by first opportunity. I intend to give him orders to receive
& give proper discharges

I remain thy true friend John Bartram

John Fothergill

PHOTOGRAPHIC REPRODUCTION OF LETTER SENT IN 1769 BY
JOHN BARTRAM TO DR. FOTHERGILL.

The original is now in South Kensington Museum Herbarium.

And how inspiring was Peter Collinson's eagerness!

Aug. 28, 1736: Send more Black Walnuts, Long Walnuts, and both sorts of Hickory, Acorns of all sorts, Sweet Gum, Dog-wood, Red Cedar Berries, Allspice, Sassafras.

Feb. 3, 1736-7: These fine Lady's Slippers don't let escape, for they are my favourite plants.

Feb. 3, 1741-2: Rose Laurel, White Cedar, White Pine, and Sassafras, thou cannot send too much,—for we can never have enough of them.

July 20, 1756: I hope my old friend will not expose himself to Indian cruelties; and yet I want a dozen boxes of seeds.

Even this;

Apr. 1, 1762: I am always careful of your earth; for I have raised many odd plants out of it that thou never would think to send seeds of.

But here we come near the heart of the matter:—

June 30, 1763: O, Botany! delightfulest of all sciences! There is no end of thy gratifications. All botanists will join with me in thanking my dear John for his unwearied pains to gratify every inquisitive genius. I have sent Linnæus a specimen and one leaf of *Tipitiwitchet Sensitive**; only to him would I spare such a jewel. Pray send more specimens. I am afraid we can never raise it. Linnæus will be in raptures at the sight of it,

* *Schrankia uncinata*,

The rhododendron is mentioned early and late :
 March 14, 1736-7: Sir Hans Sloane very much
 desires some seed of that fine Laurel thee
 discovered beyond the Blue Mountains, and
 some specimens of it when in flower.

May 20, 1737: . . . of the fine Laurels No. 102
 and 108, or Chamærhododendros, their seed
 . . . is the worst sort of seed to send over
 for keeping; . . . we must depend on
 plants; so, prithee, go at a proper season
 to the nearest place, and load a pair of pan-
 niers or baskets with young plants, and set
 some in thy garden to take root, and send
 half a dozen at a time, for this seems to me
 to be the most elegant tree that has been
 discovered in your province.

Aug. 4, 1763: The great Rhododendron has been
 glorious beyond expression.

The consignments included not only plants,
 but animals,—chiefly insects, frogs, turtles and
 birds;—minerals and fossils; maps; and, steadily,
 observations, by one, of whom as an observer
 Peter Collinson said: “Nothing can escape thee.”
 That tribute to his “unwearied pains to gratify
 every inquisitive genius” leads us to the signifi-
 cance of his work in helping to lay foundations
 for the higher learning of the last fifty years.
 Peter Collinson writes:

Dec. 10, 1737: . . . Thy curious letter . . . con-
 tained so many fine remarks that it deserved
 to be read before the Royal Society; and
 thee has their thanks for it, desiring thee to

continue thy observations, and communicate them. Pray make no apology. Thy style is much beyond what one might expect from a man of thy education. The facts are well described and very intelligible.

Aug. 20, 1753, John Bartram writes : I am now very intent upon examining the true distinguishing characters of our forest trees. . . I expect, by our worthy friend Benjamin, specimens of the evergreens of New England, which I intend to compare with ours and those of York government ; so that I may give a particular account of the evergreens natural to our northern parts, which I hope to send thee this fall or next spring,—with a fuller account of our Oaks and Hickories.

Again, Peter Collinson, May 10, 1763 : Think, my dear John, with what amazement and delight I, with Doctor Solander, surveyed the quire of specimens. He thinks near half are new genera. This will enrich the fountain of knowledge.

Such is the service that the Garden was doing in the world. At the same time, John Bartram's farm was giving a living to a large family. The farm, too, had to be made ; he was one of an early incorporated company to bank the Schuylkill and the Delaware, by which means he rescued, out of extensive swamps, arable land, and pasture for many cattle and horses ; his crops of wheat challenge the farmer of to-day ; he fertilized his orchard in an ingenious way that was a " miracle

in husbandry." Besides, he was stone-mason ; his interesting old house he built with his own hands, quarrying the stone on his estate in a remarkable manner ; see, also, in the Garden the watering-trough and the cider-mill, cut out of solid rock. And his record is fuller yet : he had to study Latin for his Botany ; he was enough acquainted with medicine and surgery to be of great help to his poorer neighbors ; he delineated a plan for deep-sea soundings more than a hundred years before the *Challenger* expedition. His thirst for knowledge was insatiable. His joy in the revelations of Nature was unbounded. What wonder that he was astonished when people complained that they were tired of time !

Yet, against such odds, how was it possible to accomplish so much ? According to James Parton, much is to be attributed to his superior management of his farm and his excellent treatment of his servants. Like a true Quaker, he " set his negroes free, paid them eighteen pounds a year wages, taught them to read and write, sat with them at table, and took them with him to Quaker-meeting ; one of his negroes was his steward and man of business, who went to market, sold the produce, and transacted all the business of the farm and family in Philadelphia." This faithful servant's grave is in his master's Garden.

John Bartram's creed was a simple one ; he has cut in the stone of his house, over one of the windows to the east, these two lines over his name ;

IT IS GOD ALONE, ALMYTY LORD,
THE HOLY ONE BY ME ADOR'D,
JOHN BARTRAM 1770.

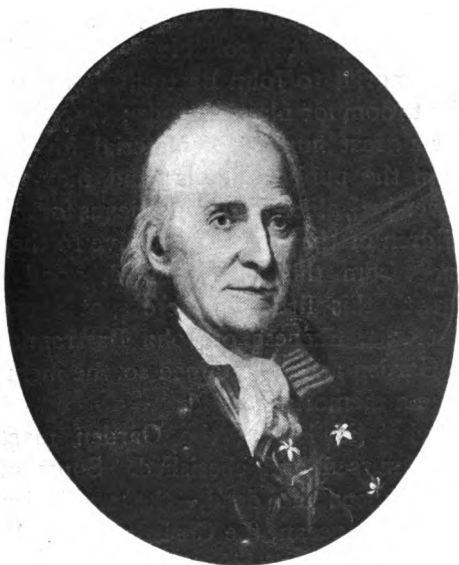
In his home he was hospitable, gentle of speech and of admonition, teaching his children to "do justly, and to love mercy, and to walk humbly with thy God." On the south side of his house, cut in stone, his wife's name stands beside his own :

JOHN: ANN: BARTRAM: 1731

Truly, "There never was a purer, kinder, gentler-hearted man than John Bartram of Pennsylvania."

Is it any wonder that, for such a man, so related to Englishmen, the British army of the Revolution spared his Garden? It descended to his son John, also a botanist. But, of all his boys, it was William, always "Billy" in the letters, who found botany,—drawing even more,—his "darling delight." He was the Puc-Puggy of the Seminoles, that is, Flower-Hunter, when under the patronage of Dr. Fothergill of London, he spent the years from April, 1773, to January, 1778, in the Floridas and western parts of the Carolinas and Georgia. He lived at the Garden with his brother John and, after John's death in 1812, with John's daughter, until his own death in 1823.

For a hundred years, then, the Garden was in Bartram hands; there followed years of cherishing in other hands; then came a period of neglect and the threat that the growing city would en-



WILLIAM BARTRAM.

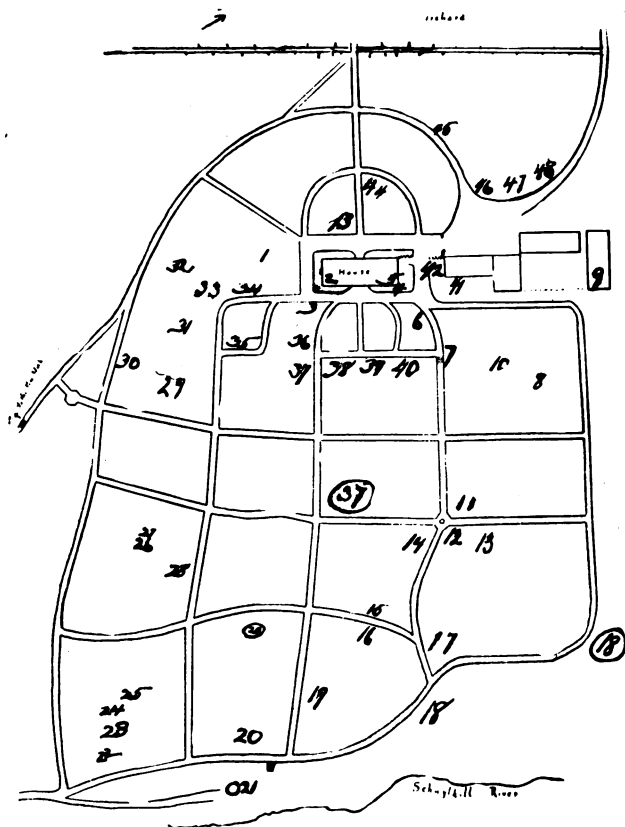
croach upon it to its extinction; happily for Philadelphia and the world, the descendants of Bartram, with sympathetic help from Thomas Meehan, then a member of the City Council, secured the purchase of the Garden by the City of Philadelphia for a public park.

The tract, since added to, contains now some thirty acres; this it is possible to develop into a meet Memorial to John Bartram. It furnishes abundant room for play-grounds; there is room, too, for a great nursery of material for Nature Study in the public schools; and play-ground and flower-bed, alike, are happy means for making the children of the community alive to their inheritance from this open-minded, good man. Then, with this little five-acre spot apart, restored to the likeness of John Bartram's own simple Garden and maintained so, the memorial would be a memorial indeed.

But what is left in the Garden must be promptly nursed and cherished. Some of the finest specimens are dead,—the maple by the west door, the pecan, the Christ's thorn, the cypress, giant of all. While the cypress stands, it is a colossal monument; but a young cypress should be growing there to succeed it. The Lady Petre pear-tree bore in its hundred-and-fortieth year; why not, then, with tender care, to its two-hundred-and-fortieth? There are still fine plane-trees and beeches and evergreens, noble oaks, and a beautiful yellow-wood. There is one little patch of galax. Let us have here,

again, the missing plants that John Bartram discovered. Surely, the rhododendron should flourish here, in the delicate tints from our own Blue Mountains. It would be beautiful to see the old-fashioned roses, that have not quite died out, climbing as fondly about the windows as we may be sure they did when John Bartram tended them.

The days must come again when one may find the winter aconite spattering the foreground ; and walk neat paths, led by the daffodils; and revel in the exquisite beauty of the silverbell-trees in bloom,—when whoever comes, in care or in glee, shall feel, along with tender beauty everywhere, the strong, still trees about him, and go quieted away.



ROUGH PLAN OF BARTRAM'S GARDEN, AUGUST, 1907.

1. Bartram Oak : *Quercus heterophylla*.
Pin Oak : *Quercus palustris*.
2. Lady Petre Pear-tree.
3. Box : *Buxus sempervirens*.
4. Watering-trough.
5. Jujube : *Zizyphus vulgaris*.
6. Yellowwood : *Cladrastis lutea*.
7. White Mulberry : *Morus alba*, var. with
black fruit.
8. *Ginkgo biloba*.
9. Old Barn.
10. Shellbark hickory : *Carya alba*.
11. Buttonwood : *Platanus occidentalis*.
12. Bald Cypress : *Taxodium distichum*.
13. Cherry Birch : *Betula lenta*.
14. Silver Maple : *Acer saccharinum*.
15. White Ash : *Fraxinus Americana*.
16. American Hornbeam : *Carpinus Carolin-
iana*.
17. Holly : *Ilex opaca*.
18. Willow Oak : *Quercus Phellos*.
19. Tulip-tree : *Liriodendron Tulipifera*.
20. Silverbell-tree : *Halesia tetraptera*.
21. Cider-mill.
22. Harvey's Grave.
23. Bitternut : *Carya amara*.
24. *Sassafras officinale*.
25. Chestnut : *Castanea sativa*.
26. Mossy-cup Oak : *Quercus macrocarpa*.
27. Oak.
28. Cucumber-tree : *Magnolia acuminata*.
29. Black Cherry.

30. Hemlock : *Tsuga Canadensis*.
31. Sweet Buckeye : *Æsculus flava*.
32. Horse-chestnut : *Æsculus Hippocastanum*.
33. Hackberry : *Celtis occidentalis*.
34. English Walnut : *Juglans regia*.
35. Ear-leaved Umbrella-tree : *Magnolia Fraseri*.
36. White Mulberry : *Morus alba*.
37. Papaw : *Asimina triloba*.
38. Chestnut Oak : *Quercus Prinus*.
39. Black Walnut : *Juglans nigra*.
40. Red Mulberry : *Morus rubra*.
41. Trumpet-flower : *Tecoma radicans*.
42. Seed-house.
43. Kentucky Coffee-tree : *Gymnocladus dioica*.
44. Red Horse-chestnut : *Æsculus rubicunda*.
45. Ash-leaved Maple : *Acer Negundo*.
46. Tree of Heaven : *Ailanthus glandulosa*.
47. Sugar Maple : *Acer Saccharum*.
48. Scarlet Thorn : *Crataegus coccinea*.

1. Bartram Oak :

There is mystery, still, about this Oak. Is it a Willow Oak? Is it one of the Red or the Black Oaks? Or is it a cross, with the Willow Oak surely for one parent? Some leaves are narrow and entire like the leaves of the Willow Oak, though the petioles are generally longer. Many leaves are indistinctly lobed. But some are distinctly lobed, with the lobes angular and awned; this is like the Red and the Black Oaks. Like all these, the Bartram Oak is biennial, that, is, does not ripen its acorn until the second autumn after the blossom appears. The garden tree was in full flower May 1, 1907.

See willow oaks on the river walk.

Of the Red Oaks, be sure sometime to see the largest pin oak, too far off to be on the plan. Except the dead cypress it is the tree of greatest girth in the Garden, being $15\frac{1}{2}$ ft. in circumference 3 ft. from the ground.

2. Lady Petre Pear-tree :

John Bartram wrote to Peter Collinson, October the 23d, 1763: "The Pear raised from her [Lady Petre's] seed hath borne a number of the finest relished fruit. I think a better is not in the world." The fruit set this year, 1907, will be picked about the third week in September and laid away to ripen, 144 years after the tree's first bearing.

3. Box :

Of the box-trees in the Garden, Mr. Meehan said, in 1853: "The Bartram specimens excel anything in beauty I have seen in its native

Box-hill in England." The trees still bear their little greenish-yellow axillary flowers, being in full bloom about the first of May.

4. Watering-trough:

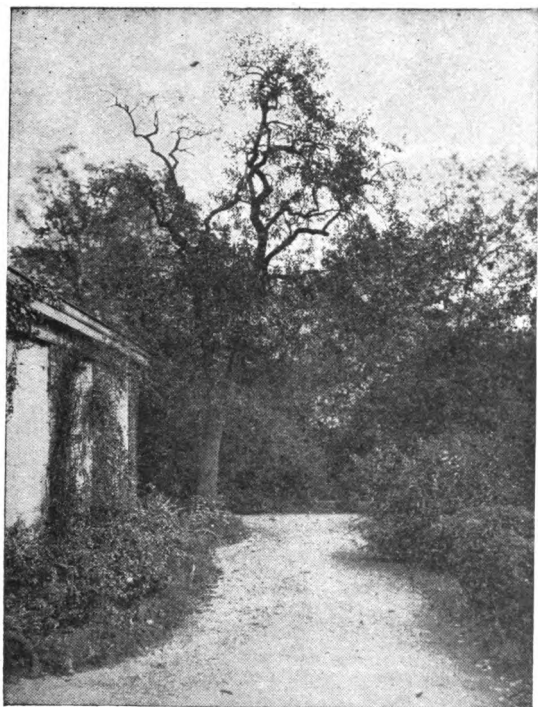
By 1748, Philadelphia is said to have had a well to every house, so by the time this watering-trough was cut, John Bartram had doubtless dug his well under the present pump by the kitchen-door. But in his day an old "well-sweep" stood on this spot and raised the bucket which filled the trough for watering the Garden.

5. Jujube:

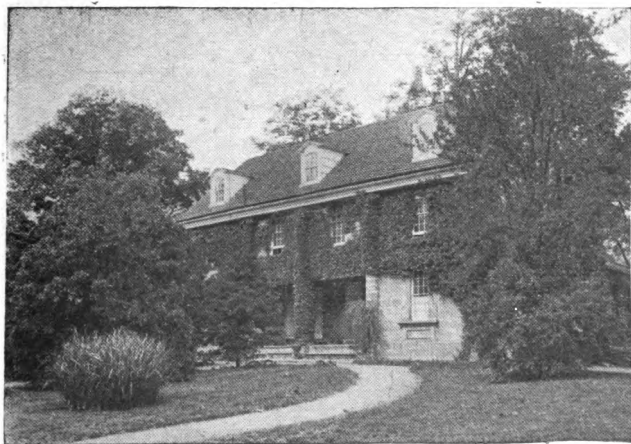
The Jujube is a native of Syria. Records show that this tree was planted in 1735. The fine, bright-green, glossy foliage makes the top-most branches, waving above the house, look, as the gardener says, like strings of smilax. The last week in June, small axillary flowers begin to open that have a delicious fragrance.

6. Yellow-wood:

This tree, so attractive from its elephant-like limbs, shaded gray bark, and golden-green foliage, surpasses itself when in full bloom in late May and early June; then, with its foot-long clusters of yellowish-white pea-blossoms pendant from the ends of the branches, it is of great beauty. Where, unless it is in the beach-pea, do pinnate leaves wear their leaflets so conspicuously alternate? From some cause, there are large clefts in trunk and branch; the massive roll of newer growth that has almost closed the larger cleft suggests great vigor, as does the root-formation, 9 ft. from the ground, within the cleft.



THE LADY PETRE PEAR-TREE IN BARTRAM'S GARDEN.



EAST FRONT OF THE BARTRAM HOUSE.

7. White Mulberry :

This three-stemmed tree bears fruit that is as insipid as the ordinary white mulberry, but is deep red-black. Its leaves vary but little. The White and Paper Mulberries are generally more interesting than the Sassafras, and almost as interesting as the Oaks to collect leaves from, if one would show the great variability of form in a single species—on a single tree, even.

8. Ginkgo :

The Ginkgo, the Maidenhair-tree from Japan, has a fan-like leaf that has no midrib, but forked veins radiating from the petiole. The Garden tree blooms about the first week in May ; being staminate, it bears no fruit.

9. Old Barn :

The north barn was built by John Bartram, Jr. From the walk near the ginkgo see his record cut in the stone, for John and Eliza Bartram :

B
I E
1775

At this point, look out of the grounds toward the north to see a living cypress.

10. Shellbark Hickory :

The Shellbark Hickory and the Bitternut have odd-pinnate leaves with the terminal leaflets much the largest, and the lateral leaflets sessile. In the Shellbark Hickory, the number of leaflets is, as a rule, 5. The bark is shaggy, with long plates, attached only by the centre or one end.

11. Buttonwood.

This and the tulip-tree are the two tallest trees in the Garden. Look on the young shoots for the sheathing stipules with their spreading, toothed borders. The bud is hidden, the base of the petiole being hollowed to receive it.

12. Bald Cypress :

In his saddle-bags, of course, John Bartram brought cypresses from Kent County, Delaware, in 1735. This old cypress was probably one of them. It grew to be 150 feet high and 27 feet in circumference. It had some live twigs in 1899. To see what Mr. Meehan describes as the striking contrast between the fineness of the foliage of the Cypress and its strong, rugged appearance; between the pale-green hue of the leaves and the cedar-like tint of the branches, look out of the grounds to the north of the ginkgo, where there is the largest specimen near.

13. Cherry Birch :

The Cherry Birch has leaves and twigs that are pleasant to the taste. There is a yellow birch not far from the river, near a large red oak that was struck by lightning.

14. Silver Maple :

The Silver Maple has finely cut foliage, with a long, gracefully-pointed terminal lobe to its leaf, and notches that seem made by two circles intersecting each other.

15. White Ash :

This is a very old white ash. If you find yourself taking a younger one for a bitternut,



THE CYPRESS IN BARTRAM'S GARDEN
AS IT WAS THIRTY YEARS AGO.



WEST FRONT OF THE BARTRAM HOUSE.

look for a petiole to the terminal leaflet ; look, besides, at the terminal bud, which will be, not ragged and yellow, but neatly covered, and of a rich rust-color, perhaps almost black.

16. American Hornbeam :

The fruit of the Hornbeam is very peculiar. The fertile catkin grows into a long, loose, pale-green cluster of leaf-like scales, in pairs, with a small nut at the base of each scale. The leafy scales are halberd-shaped.

17. Holly :

This old holly was full of fruit in January, 1907.

18. Willow Oak :

Compare with No. 1.

19. Tulip-tree :

This is the tallest tree in the Garden, unless the buttonwood is taller. It is about 10 ft. in circumference. Unfold a green bud of a Tulip-tree and see how the manner of folding has cost the leaf its tip.

20. Silverbell-tree :

Silverbell-trees are very numerous in the Garden ; see the finest, (20). The Silverbell has slender, curving twigs, and, in April, when the twigs, before they are in leaf, hang out along their length their showy white bells, the tree is very ornamental. The fruit has a four-winged coat.

21. Cider-mill :

We call this old relic in stone a cider-mill because this was a locality rich in orchards, even in Swedish times, and, in such localities, a mill-

house was considered as necessary as a barn. And it is possible for the mind to reconstruct here typical cider-mills of the eighteenth century. Let us make a simple one.

First, we must restore the stone that time has worn away, and have the two circular troughs complete; the inner one is for the apples; the outer one, judging from the dimensions of the mill, is a footpath for a man rather than a horse.

In the square hole in the centre, we must fit a short upright wooden post, shaping it above to serve as an axle on which a horizontal bar shall turn. This bar must itself be made the axle of a heavy oak roller, say 2 ft. in diameter, that shall run in the inner trough to make pulp, or pomace, of the apples. It needs only a handle of suitable height and attachment to enable a man walking in the outer trough to work the roller.

A cog-wheel fitted just inside the roller, and catching on upright teeth in a wooden cover to the stone mill, would keep the roller turning better, especially when it inclined to slide on the pomace; but mills did work without any such device.

Such juice as escapes at this stage will drain off through the outlet, and, when the mill was in perfect condition, was probably directed toward the basin evidently intended for the drainage from both mill and press.

The press we must put on the square stone by the side of the basin.

For a bottom, it shall have a thick piece of

timber standing high enough on legs to admit a tub below. Two strong upright pieces of oak shall be fastened to the timber on opposite sides, and have a roof-board to bind them together above. In the middle of this roof-board a nut must be cut for a screw to work in. Through this nut, extending well out above, there may be a large wooden screw, say 4 in. in diameter, and this screw may be expanded at its lower end into a square block with holes in the sides for the insertion of a lever. Hung by a rounded pin from the bottom of the screw is the movable board for the top of the press ; it is to go down and up with the screw, but steadied in grooves in the upright timbers.

Now on the bottom of the press we will first put a board that has a deep groove in it all around, so cut as to direct the juice toward a lip over the tub. On this board we will put a layer of "clean sweet straw," extending it out on all sides. On the straw, but well within the groove of the board below, we will spread pomace, and fold the straw over it toward the centre to keep the pomace in ; on top of this, we will lay more straw and more pomace ; again, more straw and more pomace, till we have eight or ten layers. This is what was known as "the cheese."

Now a man can put the lever into one of the holes in the lower end of the screw, and, by walking around, lower the movable board to the top of the cheese, and keep increasing the pressure until the juice is well squeezed out of the pomace into the tub.

22. Harvey's Grave :

"One of his negroes was his steward and man of business."

23. Bitternut or Swamp Hickory :

This one of the Hickories has, as a rule, 9 leaflets; with the odd one, as well as the others, sessile or almost sessile. The terminal bud has ragged yellow scales. The bark is rough but not shaggy. The valves of the fruit are united below, winged above, and, before it is ripe, are covered with gold-dust. The nut is thin and may be broken by the fingers. The best Garden specimen is near the big pin oak.

24. Sassafras :

There are three fine Sassafras trees near together. We shall have to go to smaller specimens elsewhere to taste the delicious leaves, and to see how they vary in form.

25. Chestnut :

This is one of the noble trees of the Garden. The characteristic longitudinal stripes of the bark are showy and extend almost to the very ends of the branches.

26. Mossy-cup Oak :

This fine tree belongs among the White Oaks, which are annuals, and have leaves of curved outline, never awned. Notice that the large leaf has a very deep, rounded sinus just below the middle. The fruit of the Mossy-cup is beautiful, the broad acorn being inclosed in a thick, woody cup, which is sometimes two inches across, and fringed.

27. ? Oak :

This is a large tree to be so very close to the mossy-cup. It seems to be one of the Red Oaks, but, without acorns, it is difficult to tell which one.

28. Cucumber-tree :

This wonderful magnolia is of the species that John Bartram brought home from his journey to Lake Ontario in 1743, when he accompanied Conrad Weiser, and was present at the treaty-making between the Virginians and the Five Nations of Indians.

29. Black Cherry :

This has been a fine tree. The cherry is said to be small and bitter. Notice that the characteristic splitting of the bark is horizontal, as in the Birches.

30. Hemlock :

The Hemlock is an evergreen in which the contrast of the young green upon the old is strikingly beautiful. This tree has now, in August, dainty light-green pendulous cones near the ends of the shoots, while just behind are last year's cones still hanging, dark and woody.

31. Sweet Buckeye :

The Buckeye and the Horse-chestnut have characteristic palmate leaves, the Buckeye having, as a rule, 5 leaflets. Its fruit-coat is not prickly. This tree is the finest of many sweet buckeyes. There is a strange, shrubby buckeye not far below the steps near the three-stemmed mulberry ; that is the long-racemed buckeye ; it has white flowers with very long stamens.

32. Horse-chestnut :

The palmate leaf of the Horse-chestnut has generally 7 leaflets. Its fruit coat is prickly. This species, now so common, is believed to have blossomed, for the first time in America, in Bartram's Garden. John Bartram received the seed from England in 1746.

33. Hackberry :

Specimens of the Hackberry are scattered all over the Garden. It has inconspicuous greenish flowers of two kinds ; the pistillate have a two-horned plumose stigma, white on a green ovary, pretty to see. The fruit is of unusual and acceptable flavor. The twigs are of the finest, and, in winter, the tree may be recognized unerringly by its numberless "witches' brooms" and its warty bark.

34. English Walnut :

Like the two Hickories, which belong to the same family, the English Walnut has from 5 to 9 leaflets, the terminal ones the largest ; but, unlike them, its leaflet is smooth, and the terminal one has quite a long petiole.

35. Ear-leaved Umbrella-tree :

A cut stump hints what this magnolia has been. This species William Bartram discovered in the South in 1776.

36. White Mulberry :

This leaning white mulberry blew over in a gale. The mound at the base shows which way the wind blew and how the roots were wrenched. The tree was well propped, and is now as good a specimen of strictly White Mulberry as there is in the Garden.

37. Papaw :

Look for the brownish-purple blossom between early and middle May. The fruit ripens in the Garden, but without yellowing ; it looks like a short, thick banana, but has some eight brown seeds lying crosswise ; one taste is delicious, a second, cloying. This tree blew down one fall, lay prostrate till the following summer, then, with top and branches lopped off, was raised, its weight thrown to the side of weakest roots, and to-day it is a thrifty tree. See the finest specimen, (37).

38. Chestnut Oak :

Compare this leaf with the chestnut leaf. The Chestnut Oaks, like the White Oaks, mature their acorns the same year that the blossoms appear.

39. Black Walnut :

The Black Walnut has very different foliage from the English Walnut. Its pinnate leaf has from 13 to 21 leaflets, and they are smaller toward the apex.

40. Red Mulberry :

This is a more robust species of Mulberry than the White, and it bears later and larger fruit, black, and pleasantly acid in flavor.

41. Trumpet-flower :

The trumpet-vine over the arbor was sent from the South in 1749 by John Bartram's brother William, who settled near Cape Fear, North Carolina.

42. Seed-house.

A portion of this long, narrow building was

built in 1743. The end nearest the house was added later; it shows some curious old carvings in stone—a flower, a bunch of grapes and other designs, and access to pig-troughs below.

How busy it would look within if we could see John Bartram, leather apron on, packing his snails and his hornets' nests, the muskrat-skin that son Moses got for Dr. Gronovius, James's papaw-roots for Mr. Catesby, Lady Petre's humming-bird's nest and eggs, squash-seeds, and a horseload of pine cones from the Great Vale. How much did one long cedar box hold?

43. Kentucky Coffee-tree :

This species has such a wealth of compound bipinnate leaves at the ends of its twigs that the twigs, though outdone by the *Ailanthus*, have to be of unusual size, and we may know the tree by them in winter. Look for the pair of single leaflets at the base of the compound leaf.

44. Red Horse-chestnut :

This tree is said to blossom abundantly about the middle of May.

45. Ash-leaved Maple :

The Ash-leaved is the only Maple that has a compound leaf.

46. Tree of Heaven :

The *Ailanthus* is a native of China. Its leaves are sometimes three feet long and, having many leaflets, are like great plumes. Each leaflet has, at the base, at least one tooth on each side, with a gland at the point of each tooth. There are pistillate trees behind the hen-yard. This one is a staminate tree. The staminate



Photographic Reproduction of Line Drawing made by William Bartram and forwarded by him to Dr. Fothergill.
The original is now in South Kensington Museum Herbarium.

flower-cluster is decidedly ill-smelling, but on smaller specimens is attractive to look at closely, and, June 28th, in the Garden, was covered with fire flies.

47. Sugar Maple :

The Sugar Maple has a broader leaf than the Silver Maple, with wide, rounded notches and few teeth.

48. Scarlet Thorn :

Here we have showy fruit in clusters and strong spines. The fruit falls in September, and has an apple flavor. Notice the doubly cut margin of the leaf, and the glands on teeth, petiole, and stipules, on calyx and peduncle.

Not on the plan are white oaks ; poplars ; lindens ; honey-locusts ; one persimmon ; Osage orange, hedge and trees ; paper mulberries ; fringe ; sweet bay ; dogwoods, white and one red ; witch-hazels, real trees ; a *Gordonia pubescens* a foot and a half high in a pen of stakes ; and catalpas, of which one old tree near the largest willow oak (18) has thrown a long limb over the fence and struck root with it out of the grounds ; the same tree was bored for honey four or five years ago, and is said to have yielded, with comb and all, a tubful.

We must not omit the small shrub of oak-leaved hydrangea near the long-racemed buck-eye, because William Bartram, in his "Travels," was the first to name and describe this species, which entitles it to be set down in botanical works as *Hydrangea quercifolia*, Bartram.

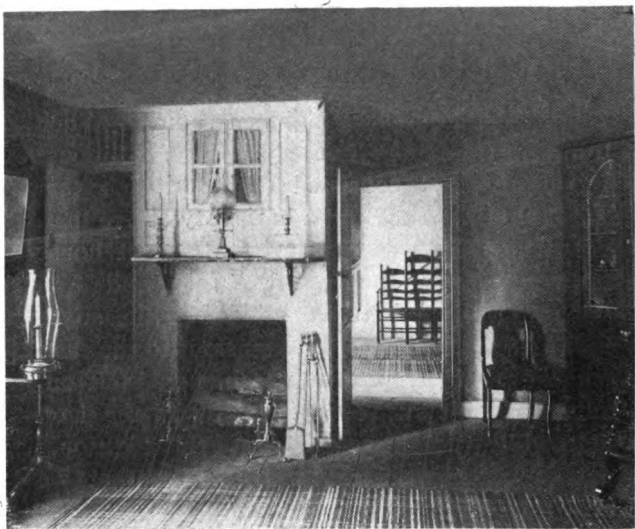
THE HOUSE.

The Old House has eighteen rooms. When John Bartram bought the property, the house upon the place consisted of the kitchen that has the big fireplace and a half-story above that. To this he added as much of the present house as would bring the record, "John and Ann Bartram, 1731," into the middle of the south end. At a later time, the extensions to the east, the width of the present porch, were built on, the inscription over one window, with the date, 1770, giving doubtless the date of this addition.

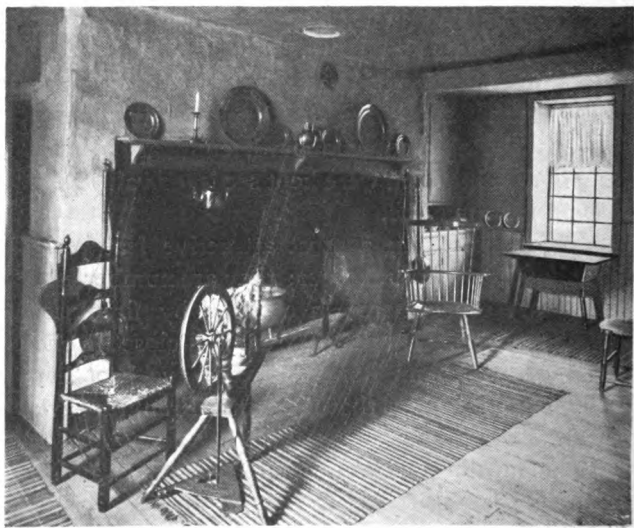
This extension includes the room that we call John Bartram's study; and, no doubt, he did use it as such, for his books were kept here, but it could have been only in the last years of his life. What we call the sitting-room was probably his study in earlier times, for this room has a fireplace; here stood the Franklin stove, the gift of Benjamin Franklin, of which only the casting that the stove stood on remains; here, too, is the chimney-cupboard, cupboard within cupboard, in which were kept seeds, or valuables, or both, it may be.

These closets are a most attractive feature of the house to a housekeeper; they are numberless, they are everywhere—in corners, by fireplace, over mantels. In the little mantel-closet in the sitting-room, Ann Bartram may have kept her blue china tea-cups that Benjamin Franklin gave her.

The furniture is none of it John Bartram's; but the City, in restoring the old house, has in-



THE SITTING-ROOM OF THE BARTRAM HOUSE.



THE KITCHEN.

tended, by choosing mahogany and some of the plainer Chippendale and Hepplewhite designs, to be as faithful as practicable to his time.

John Bartram alludes to doing work by candle-light; let us hope that he had a "hurricane-globe" to keep the candle from flaring.

In the kitchen, or living room, the iron fire-dogs, the old crane and big iron pot, the long-handled frying-pan, the pewter dishes, the recesses in the chimney where it is likely boots were dried at night, all speak of the old time.

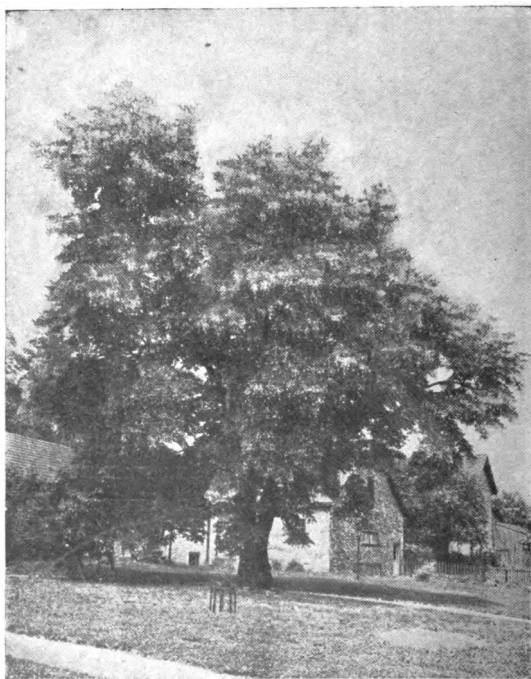
No doubt Ann Bartram at her dough-trough has stirred up many a huge dumpling to go with a delicious stew from some big iron pot.

It is good to think that there were warming-pans in those days for some daughter of the house to put coals into of a winter night and iron the beds with between the sheets just before bedtime.

On such a night we can see the settle hauled before a blazing fire in that monstrous fireplace, and its high back would do good service in keeping the cold draughts away.

And on such a night, perhaps, John Bartram told Peter Kalm about his finding our common little roadside plantain in so many places that he believed it to be a native American plant, till the Indians disputed him and maintained their ground, declaring that they had never set eyes upon it till Europeans came, but, where a European trod, it sprang up in his footsteps; their name for it was the "White Man's Foot." Such a pretty story in Natural History this

seemed when, a hundred years after, Mr. Agassiz told it to Mr. Longfellow! With John Bartram we are at its source.



THE YELLOW-WOOD IN BLOSSOM IN BARTRAM'S GARDEN.



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